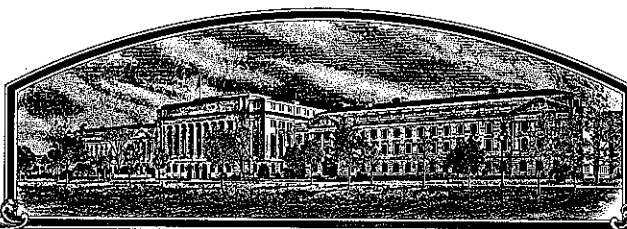


No.

9100191



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrow Seed Company

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (T. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'A3242'



In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington, D.C.
this 31st day of August in
the year of our Lord one thousand nine
hundred and ninety-two.

Attest:

Kenneth H. Egan
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Edward Madigan
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1 NAME OF APPLICANT(S) (as it is to appear on the Certificate) Asgrow Seed Company		2 TEMPORARY DESIGNATION OR EXPERIMENTAL NO. XP3015	3 VARIETY NAME A3242
4 ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) 9646-190-20 7000 Portage Road Kalamazoo, MI 49001		5 PHONE (include area code) (616) 385-6649	FOR OFFICIAL USE ONLY PVPO NUMBER 9100191 Filing Date May 24, 1991 Time <input type="checkbox"/> A.M. <input type="checkbox"/> P.M. Filing and Examination Fee \$ 2150.00 Date May 24, 1991 Certificate Fee \$ 250.00 Date Aug. 10, 1992
6 GENUS AND SPECIES NAME Glycine Max	7 FAMILY NAME (Botanical) Leguminosae	9 DATE OF DETERMINATION September, 1985	
8 CROP KIND NAME (Common Name) Soybean		10 IF THE APPLICANT NAMED IS NOT A "PERSON" GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation	
11 IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware		12 DATE OF INCORPORATION March 22, 1968	
13 NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Mr. Gary E. Starwalt, 9646-190-20 Asgrow Seed Company 7000 Portage Road Kalamazoo, MI 49001 PHONE (include area code) (616) 385-6649			

14 CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

- a ☒ Exhibit A. Origin and Breeding History of the Variety
 b ☒ Exhibit B. Novelty Statement
 c ☒ Exhibit C. Objective Description of Variety
 d ☒ Exhibit D. Additional Description of Variety
 e ☒ Exhibit E. Statement of the Basis of Applicant's Ownership
 f ☒ Seed Sample (2,500 viable untreated seeds) Date Seed Sample mailed to Plant Variety Protection Office _____
 g ☒ Filing and Examination Fee (\$2 150) made payable to "Treasurer of the United States"

15 DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act)

☐ YES (If "YES" answer items 16 and 17 below) ☒ NO (If "NO" skip to item 18 below)

16 DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

☐ YES ☒ NO

17 IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18 DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act Give date _____)
☒ NO

19 HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?

☐ YES (If "YES," give names of countries and dates)
☒ NO

20 The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT (Owner(s)) <i>Gary E. Starwalt</i>	CAPACITY OR TITLE <i>Agronomic Business Development</i>	DATE <i>May 20, 1991</i>
SIGNATURE OF APPLICANT (Owner(s))	CAPACITY OR TITLE	DATE

Asgrow Seed Company
PVP Application A3242 Soybean
February 07, 1991

EXHIBIT A

Origin and Breeding History of A3242

1982 - Cross was made at Oxford, Indiana.

PARENTS: Fayette * A2943

1982-84 - F₁, F₂, F₃, and F₄ generations grown at Isabala, Puerto Rico.

1984 - F₅ generation grown at Oxford, Indiana. Several hundred plants were selected from the bulk population and threshed individually. Seeds from individual plants were screened in the greenhouse at Stonington, Illinois for resistance to race 3 of the soybean cyst nematode.

1985 - Progeny row B82449-B85-09157 was selected for its uniformity, standability and cyst nematode resistance at Oxford, Indiana. This row was harvested in bulk and seeds were checked and verified for uniform seed coat luster, hilum color and SCN resistance to race 3.

It was September, 1985, that B82449-B85-09157 was determined to be a stable and unique line.

1986 - B82449-B85-09157 was entered in the preliminary P357 yield test (entry 08) which was grown at Oxford, Indiana and Stonington, Illinois. It produced uniform stands and was selected for its high yield, standability, good plant health.

B82449-B85-09157 was tested for soybean cyst nematode resistance during the winter of 1986-87 and found to be resistant to races 3 and 14.

1987 - Because of its good yield potential, B82449-B85-09157 was put into the N303, an advanced yield trial for cyst resistant lines grown at nine non-cyst locations and two cyst-infested locations including the states of Maryland, Iowa, Indiana and Illinois. Because of its high yield and SCN resistance, it was selected and given the experimental designation X3015.

1988 - X3015 was grown in two different advanced yield trials during 1988 at 20 locations across the midwest and east coast.

X3015 was tested for Phytophthora root rot resistance in the greenhouse and found to be susceptible. X3015 was rechecked to both race 3 and race 14 of the soybean cyst nematode by Asgrow and University personnel and found to be resistant to both races.

X3015 was selected for its yield, standability, SCN resistance and brown stem rot tolerance.

(2)

Exhibit A continued.....

- 1988 - Breeder seed of X3015 was produced at Oxford, Indiana and Stonington, Illinois during the summer of 1988.
- 1989 - X3015 was grown in two different advanced yield trials during 1989 at 25 locations across the midwest and east coast.
- X3015 again tested susceptible to Phytophthora root rot resistance and resistant to races 3 and 14 of the soybean cyst nematode. X3015 showed a high tolerance to brown stem rot in 1989, a year where BSR was quite prevalent.
 - X3015 was advanced to XP3015 because of its yield, standability, SCN resistance and good tolerance to brown stem rot.
 - More breeder seed of XP3015 was grown at Stonington, Illinois in 1989. Fifty pounds of breeder seed was sent to Puerto Rico for an additional increase during the winter of 1989-1990.
- 1990 - XP3015 was entered in eight advanced yield trials which were grown at 31 locations across the midwest and east coast.
- XP3015 was nominated for release and full production and assigned the designation A3242.
 - Foundation seed of A3242 was produced near Perry, Iowa.
- A3242 is uniform and stable within commercially acceptable limits based on trial observations since its development in 1985. As with other soybean varieties, variants can occur for almost any characteristic during the course of repeated sexual reproduction.

Asgrow Seed Company
 PVP Application A3242 Soybean
 February 07, 1991

EXHIBIT B

Novelty Statement concerning A3242 Soybean

To our knowledge the soybean varieties that most closely resemble A3242 are A2943, A3415 and Pioneer P9303. There may be many varieties which look similar to A3242, but we know of none which combine these phenotypic traits with resistance to the soybean cyst nematode. Characteristics which differentiate A3242 include, but are not necessarily restricted to the following:

	1. <u>Flower</u> <u>Color</u>	2. <u>Pubescence</u> <u>Color</u>	3. <u>Hilum</u> <u>Color</u>	4. <u>Pod Wall</u> <u>Color</u>	5. <u>PRR</u> ^{a.)}	6. <u>SCN</u> ^{b.)}
A3242	Purple	Gray	Imperfect Black	Brown	rps	3,14
A2943	Purple	Gray	Imperfect Black	Brown	Rps1a *	None *
A3415	White *	Tawny *	Black *	Tan *	rps	3,14
Pion 9303	Purple	Gray	Yellow *	Brown	rps	None *

- a.) Gene for resistance to Phytophthora megasperma Drechs. f.sp. glycinea.
- b.) Resistant to these races of Heterodera glycines Ichinohe, (soybean cyst nematode) (**note; race 14 was formerly race 4.)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

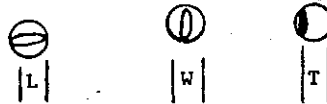
EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Asgrow Seed Company	TEMPORARY DESIGNATION XP3015	VARIETY NAME A3242
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) Gull Road, Building 190 Kalamazoo, Michigan 49001		FOR OFFICIAL USE ONLY PVPO NUMBER 9100191

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow 2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low 2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a) 2 = Type B (SP1^b)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Specify) _____

11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 21 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☐ 2

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

☐ 2

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

☐ 1

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 21 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

☐ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

☐ 0 ☐ 6

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★

☐ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 0Bacterial Blight (*Pseudomonas glycinea*)

★

☐ 0Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★

☐ 0Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora soja*)

★

☐ 0

Race 1

☐ 0

Race 2

☐ 0

Race 3

☐ 0

Race 4

☐ 0

Race 5

☐

Other (Specify)

☐ 0Target Spot (*Corynespora cassiicola*)☐ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 1Powdery Mildew (*Microsphaera diffusa*)

★

☐ 2Brown Stem Rot (*Cephalosporium gregatum*)☐ 0Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 1 Race 1 ☐ 1 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ 1 Race 5 ☐ 0 Race 6 ☐ 1 Race 7
- ☐ 1 Race 8 ☐ 1 Race 9 ☐ Other (Specify) _____

VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 0 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 2 Race 3 ☒ Race 4 ☐ 2 Other (Specify) Race 14
- ☐ 0 Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): _____

RWS 7-20-92

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 1 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) _____

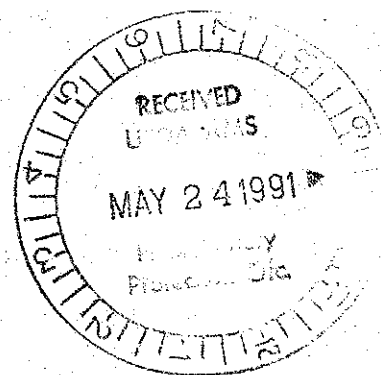
22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	A3205	Seed Coat Luster	A2943
Leaf Shape	A2943	Seed Size	A3205
Leaf Color	A2943	Seed Shape	A2943
Leaf Size	A2943	Seedling Pigmentation	A2943

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
Submitted A3242	135	2.3	91			41.7	20.5	14.9	
A3205 Name of Similar Variety	135	2.3	91			41.9	20.5	14.8	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.



9100191

Asgrow Seed Company
PVP Application - A3242 Soybean
February 07, 1991

EXHIBIT D

Additional Description of the Variety

A3242 is an early Maturity Group III cultivar that possesses superior and consistent yields relative to other varieties of similar maturity. A3242 combines this high yield potential with resistance to races 3 and 14 (formerly race 4) of the soybean cyst nematode. A3242 has also shown high tolerance to the brown stem rot organism.

9100191

Asgrow Seed Company
PVP Application - A3242 Soybean
February 07, 1991

EXHIBIT E

Statement of the Basis of Applicant's Ownership

A3242 was originated and developed by Dale Weigelt, an Asgrow Plant Breeder. By agreement between employee and Asgrow Seed Company, all rights to any invention, discovery, or development made by an employee are assigned to the Company. No rights to such invention, discovery, or development are retained by the employee.